

Initiative under way to bring free bus service to Truckee-North Shore

By Jim Sloan
TAHOE IN DEPTH

Lake Tahoe transportation officials, business leaders, and regulatory agencies are teaming up to establish year-round, free bus service that connects North Lake Tahoe, Truckee, and Incline Village.

The North Lake Tahoe Resort Triangle Transit Vision imagines a future where residents and visitors can avoid the hassle of driving and parking by riding free buses running frequently over popular routes to ski resorts, beaches, and shopping and dining districts.

The system would allow the North Tahoe area to catch up to other destination resorts like Park City, Vail, and Mammoth Lakes. In Mammoth, 40 percent of skiers ride a bus from lodging to the lifts. At Park City, where free buses run every 20 minutes, buses are hauling nearly 2 million passengers a year; in Vail, the number is nearly 4 million. North Tahoe buses ferry a little over 400,000 people annually.

“Increasingly, resort visitors are simply expecting that they will not need

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Photo by Tom Lotshaw

Tahoe Yellow Cress

A conservation success story

By Joanne S. Marchetta
TAHOE REGIONAL PLANNING AGENCY

Lake Tahoe has been recognized for another important conservation success. Our region’s proactive, collaborative strategy to protect Tahoe yellow cress, begun almost 15 years ago, is working so well that the plant does not need additional protections under the federal Endangered Species Act.

This conservation success story is yet

another example of epic collaboration — how unparalleled partnership and collaboration are getting things done at Lake Tahoe. In this case, protecting a unique wildflower species that once teetered on the brink of extinction has avoided the need for additional federal protections that would have regulated many private homeowners as well as many public recreation areas.

Tahoe yellow cress is a flowering

perennial plant that grows only along Tahoe’s beautiful, and popular, sandy beaches. Patches of the wildflower must spread and shift with the ever-changing water levels of our lake. The flower is found nowhere else in the world.

U.S. Fish and Wildlife Service in October announced its decision not to list Tahoe yellow cress as a federally endangered or threatened species after an

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We're making progress

2015 brought about important changes in our high alpine hamlet. The Tahoe Basin's economy, struggling even before the Great Recession, is rebounding and a renaissance is under way in pockets around the lake. This positive trend helps strengthen the Region's resolve to protect and restore Lake Tahoe, which is costly and labor-intensive.



With the passage of the Regional Plan Update in 2012, the framework is in place to transform what was a deteriorating environment and community into a thriving, healthy ecosystem. We are on our way, and it's exciting. Public restoration funding is also showing signs of life. Both California and Nevada are putting bond monies into the lake's restoration and the pending Lake Tahoe Restoration Act is moving through committees in the U.S. Congress.

Thank you for your continued support for Tahoe In Depth and enjoy this magical season. Think snow!

— Julie Regan
Executive Editor

Tahoe In Depth

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When you go backcountry skiing at Tahoe, you get untracked snow, incredible views — and the satisfaction of climbing to the top on your own.

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Peregrines on the rise

Falcon experiencing resurgence at Tahoe

By T. Will Richardson

TAHOE INSTITUTE FOR NATURAL SCIENCE

It's August at Lake Tahoe, the peak of shorebird migration, and the low water level means ample beach and mudflat habitat at the delta formed by the Upper Truckee River and Trout Creek.

Sandpipers and plovers of a dozen species are spread out along the beach, feverishly fueling up for the next leg of their southbound journey, when suddenly — panic. The birds alight, coalescing into a swirling aerial ball, fragmenting and reorganizing. The swarm stretches and splits into two groups as a peregrine falcon slices straight through the middle of the flock, plucking an indecisive straggler along the way. It's a thrilling spectacle, but less common at Tahoe until recent years.

Extensive range

The peregrine's name means "wandering falcon," and it has the most extensive natural range of any bird species on the planet. Prior to the Comstock era, it is likely that peregrine falcons were regular breeders in, and certainly would have been regular migrants though, the Lake Tahoe Region. An 1877 report by the U.S. Geological Survey describes the species as "met with frequently in early fall."

As recently as the early 1940s, peregrines were known to nest at Echo Summit and Cave Rock, but over the course of the next several decades, the species experienced precipitous population declines around the world due to the use of organochlorine insecticides like DDT, aldrin, and dieldrin.

The approximately 3,875 breeding pairs of peregrines in North America prior to the 1940s declined to 324 breeding pairs at their lowest point in 1975. DDT use was banned in the U.S., Canada, and most of Western Europe by the early 1970s, but it took many years to bring the species back from the brink.

One method used to promote rapid population growth and expansion was captive breeding and hacking. Nestling birds hatched from captive breeding programs (often involving falconry birds in the case of peregrine falcons) were reared in a wooden box to help protect

them from predators and weather, and these boxes were placed at unoccupied but otherwise suitable nesting sites, typically a high cliff, a couple of weeks prior to fledging. Once the birds had been at the site for five to 10 days, the box was opened, giving these birds the freedom to move around the site, flap their wings, and build strength.

Biologists provided the birds food throughout the hacking process, but there was minimal contact and biologists often used hand puppets to simulate feeding behavior of adult birds. From 1985 through 1991, 18 juveniles were released at two hack sites in Tahoe, one at Luther Rock and one at Eagle Falls. All 18 birds successfully fledged and dispersed, and the program was considered a success, though where these birds ultimately dispersed to is anybody's guess. Migrants and presumed transients would steadily increase during the 1990s and 2000s, but it was 22 years since the last hacking effort at Luther Rock before peregrines were confirmed to be breeding again at Lake Tahoe.

Nest discovered

In 2007, peregrine falcons were observed in late summer near both South Maggies Peak and Angora Peak. Further investigations revealed that a rock-climbing biologist had observed a peregrine at Luther Rock in 2006. In 2008, the wildlife crew of the U.S. Forest Service Lake Tahoe Basin Management Unit (LTBMU) began monitoring potential nesting sites based on a 1980 nesting survey, and the following year a nest was found at Luther Rock.

What's more, the pair at that nest successfully fledged two young. By 2011, a second nest was discovered at Castle Rock. In 2014, a third nesting pair was confirmed at Cave Rock, and this summer a fourth nest was found at Eagle Lake. Thanks to heroic efforts on a shoestring budget, the wildlife crew at LTBMU has managed to confirm that each of these locations has remained active since they were first found, typical of the species, and a minimum of 20 juveniles has fledged at Lake Tahoe over the last seven years. This is truly an impressive rebound for the peregrine.



A peregrine falcon eats a band-tailed pigeon near Sand Harbor.

Photo by T. Will Richardson

Exciting to watch

Birders and biologists rejoice at the return of the peregrine to Tahoe. Their great speed and hunting skill can be exhilarating to observe. As Forest Service biologist Shay Zanetti points out, "they add an exciting element to the basin ecology." But perhaps more importantly, they belong here.

Now we need to make sure we can sustain all of these breeding predators, and foraging habitat may prove limiting. Peregrines prefer to hunt water birds and were once known as "Duck Hawks" in this country.

Prior to the construction of the first dam at Tahoe City in the 1860s, there was far more shorebird and wetland habitat distributed around the lake's shoreline. Extensive beaches and mudflats were perhaps more consistently available from year to year. Now the best waterfowl and shorebird

habitat has been reduced and concentrated into a few small pockets, especially when the lake is full.

Thus, we need to consider the peregrine falcon, perhaps nesting miles away on some craggy cliff side, when setting policy that can affect the bird population at a given location. That's why it's important for dog owners to keep their pets on a leash at the Upper Truckee Marsh or many of Tahoe's beaches. But it also applies to forest management practices that might affect band-tailed pigeons, Steller's jays, Northern flickers, or other birds the peregrine relies on for food. To support a healthy population of peregrine falcons at Lake Tahoe, we need healthy populations of the other bird species as well. Based on the recent trajectory of peregrine recovery at Tahoe, it appears things are looking up.

T. Will Richardson is co-founder and co-executive director and director of applied science at the Tahoe Institute for Natural Science.

North Shore transit could get easier

Coalition analyzes advantages of increasing frequency, dropping fares

Continued from page 1

a car to enjoy a well-rounded vacation experience,” said Sandy Evans Hall, CEO and executive director of North Lake Tahoe Chamber/CVB/Resort Association.

The North Lake Tahoe Resort Association (NLTRA) initiated the program to expand the reach and frequency of the existing bus system, and a wide variety of organizations have joined the Vision Coalition, including the Town of Truckee, Placer County, Squaw Valley, Truckee Tomorrow, the Truckee North Tahoe Transportation Management Association, Vail Resorts, Tahoe Regional Planning Agency, Tahoe Transportation District, Washoe County, Placer County Transportation Planning Agency, and JMA (Homewood Mountain Resort).

Free service

The idea is to provide a free service with frequency increased to every 30 minutes instead of the current 60 minutes, and to run the buses until 2 a.m. during peak tourist seasons (9:30 p.m. in the off season). Not only would workers and visitors be able to use the service, saving time and money, but the improved bus service could reduce vehicle miles traveled in the area by 153,000 miles annually while cutting down on road dust, thus improving air and water quality in the area.

While critics suggest that people

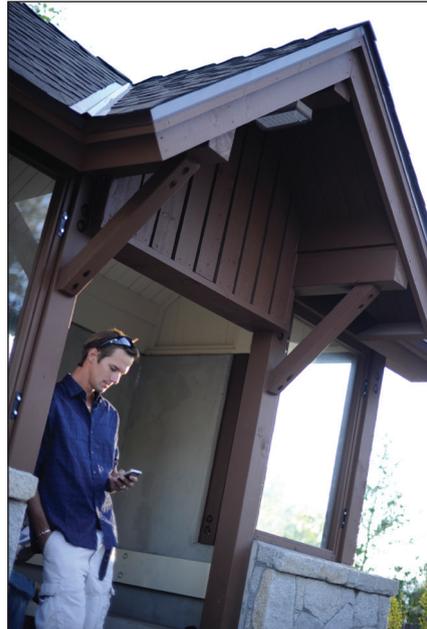


Photo by Corey Rich

Once funding is established, transit officials can extend hours of operation, begin to increase the frequency of popular routes, and eliminate fares within a year.

would still use their cars, advocates point out that when the TART service to Truckee expanded its route from five to 10 runs a day, ridership grew by 94 percent. During peak winter runs, TART often employs extra buses to handle the overflow.

An exhaustive 2014 Economic Benefit study of the proposed Transit Vision commissioned by the NLTRA found that half of North Tahoe’s visitors stay in lodging facilities that are served by bus lines and 60 to 80 percent of those staying in vacation rentals or ski leases are within

a five-minute walk of a bus station.

“It’s true that buses get caught in the same traffic delays as motorists,” Hall said. “But the bus allows you to avoid parking hassles, can drop you closer to your destination, allows you to play on your phone, and saves gas costs.”

Funding options

The only hitch in the plan is funding: Although much of the capital cost of new buses can be covered by state and federal sources, ongoing operating costs will need to come from public and private sources. The most common public source for transit funding is a one-half cent sales tax, Hall said, but other options are lodging taxes and real estate transfer fees. The expanded service would cost \$7.2 million — \$2.7 million more than what officials spend on the current system. Supporters are putting together potential funding plans and presenting them in public forums to get input.

The 2014 study also found that an expanded transit system would bring an additional \$4 million in direct and indirect benefits — “easily justifying the public investment,” authors said.

Once funding is established, transit officials can extend hours of operation, begin to increase the frequency of popular routes, and eliminate fares within a year. Increasing the frequency of all the buses will take longer because buses need to be ordered and maintenance facilities would have to be expanded.

In the interim, funding provided by NLTRA and Placer County have allowed for a new branding of the buses and signage, and consolidation of the management of the service to eliminate confusion for the traveler. Instead of finding multiple services signed at each post with different phone numbers and fares, there will be a single system and single signage for ease of navigation.

Airport district helps

Also, the Truckee Tahoe Airport District has pledged funding to provide for year-round service for the next three years on State Route 267 connecting Kings Beach, Northstar, and Truckee. This is a critical service route during the winter, allowing employees to reach the ski resort, resort guests to visit the shops and restaurants in Truckee, and citizens of Kings Beach to access the hospital and other needed services in Truckee.

The Placer County Transportation Planning Agency (PCTPA) is considering asking the voters in 2016 to approve a one-half cent increase to the sales tax in all of Placer County for the purpose of improving roads, transit, and trails. A portion of the proceeds of this tax would return to the North Tahoe region to continue to execute the Transit Vision. Approximately \$500,000 could be made available to extend hours of operation and increase frequency of service if voters approve the tax increase.

Yellow cress

Continued from page 1

extensive review found previously identified habitat threats no longer pose significant risk to the species.

Over the last 10-plus years, those habitat threats to Tahoe yellow cress have been managed and successfully reduced by the broad group of federal, state, local, and private sector partners on the Tahoe Yellow Cress Adaptive Management Working Group. This group has protected the plant and its habitat with a comprehensive conservation strategy that was first put into action in 2002 to keep this rare wildflower from disappearing. That conservation strategy has been

successfully implemented. So much so that in announcing its decision, the U.S. Fish and Wildlife Service said, “The efforts of the Lake Tahoe area working group and its technical team and the partnership they’ve built over the past decade to protect this unique plant have truly exemplified the most basic function of the Endangered Species Act — to protect and conserve ecosystems and the species that depend upon them. They have continued to raise the standards for the next generation of conservation and convinced us that Tahoe yellow cress has a bright future.”

Success has not come easily, and it has involved the dedicated and coordinated work of many partners at Lake

Tahoe, including regulatory and land management agencies, private property owners, and the public.

Protecting Tahoe yellow cress and its habitat is one of the goals of the Environmental Improvement Program, the capital improvement program that TRPA manages to restore Lake Tahoe’s environment and improve recreational opportunities. More than 50 public and private partners work together to prioritize and implement projects through the EIP.

By working together we have protected Tahoe yellow cress and its habitat, collected and germinated seeds to plant new populations of the wildflower, and educated people about the plant and the

importance of protecting it.

This decision by the U.S. Fish and Wildlife Service shows that our partnership and collaboration are working. The working group recently updated the conservation strategy and has agreed to continue to implement it.

This conservation success story shows there is a bright future for partnership and collaboration at Tahoe. And partnership and collaboration have proven time and time again to be what is most needed to find common solutions and solve many more of our environmental challenges at Tahoe.

Joanne S. Marchetta is executive director of the Tahoe Regional Planning Agency.

Blackwood Creek rerouted to health

Misused Tahoe tributary shows signs of recovery

By Craig Oehrli

U.S. FOREST SERVICE

For thousands of years, Blackwood Creek was an important fishery for the Washoe Tribe. Each year large adult trout would migrate up from Lake Tahoe to spawn a new generation. The trout offspring had an excellent stream in which to grow, with shady, overhanging vegetation, and many deep, cool pools for rest and protection.

Over the last 50 years, however, a variety of land uses have severely degraded this once stable and productive mountain creek. In particular, private mining of river gravels and the extensive removal of large trees from the floodplain caused a cascade of erosive forces to unfold.

Once the bed and banks of the stream channel became unstable, the creek slowly began to straighten. It was no longer a small stream meandering through a cottonwood forest. The energy of the flowing water increased as it passed through the straightened, barren channel, amplifying vegetation loss and greatly increasing sediment delivery to the stream and downstream to Lake Tahoe.

The chain of events ultimately led to a significant loss of streamside vegetation and a wider, shallower creek with very little pool habitat — a far cry from the days when locals claimed you could dangle your feet off the edge of the bank, touch the water, and catch your dinner.

In 2008 and 2009, the U.S. Forest Service Lake Tahoe Basin Management Unit (LTBMU) set out to work on the most heavily eroded and straightened portions of the stream. The Forest Service restoration team directed heavy equipment and hand crews in the project area in what could best be described as “open heart surgery” — taking a straight stream and re-establishing a new meandering channel with strategically placed rocks and wood that would serve as a sound foundation for Mother Nature to continue to shape and mold. One year after construction was completed, the channel showed signs of recovery, with water spreading out during floods and depositing sediment on streambanks



Blackwood Creek continues to heal seven years after the Forest Service first started work on the restoration project.

and floodplain surfaces.

Fast forward to 2015, and the stream continues to heal. Several floods since the wetter seasons of 2010 and 2011 continue to reshape and reform the stream, allowing re-establishment of important habitat and floodplain. Healthy and robust meadows are forming near the edge of the new stream channel. In the stream, new wood structures and beaver dams are forming deep pools that serve as refuges for young fish.

While touring the creek in October, California Trout Outreach Coordinator Mike Weir said he was impressed with the restoration. “I am astonished with both the number of young trout and the variety of ages seen in the restored areas,” he said.

In addition to restoration activities, the Forest Service also expanded its monitoring to include students and teachers from area high schools, local nonprofits and environmental agency staff. This monitoring work is part of the Tahoe Basin Watershed Education Summit (TBWES), which has now collected stream and water quality data in



Blackwood for 2011, 2013, and 2015.

“Students show great enthusiasm and professionalism when working with scientists to collect this important data,” said Megan Dee of the LTBMU Conservation Education Program. “This program has inspired some students to consider pursuing a career in watershed science.”

The TBWES data, in conjunction with data collected by the Forest Service, will be used to evaluate management actions and ensure continued recovery of both Blackwood Creek and the resident trout population that will grow, migrate to Lake Tahoe to mature, and return to spawn once again.

Craig Oehrli has been a restoration hydrologist for the Lake Tahoe Basin Management Unit since 2002; prior to that he earned two degrees in geology and spent his summers working as a U.S. Forest Service fisheries technician.

Forest Service seeks input on plan for Incline Lake parcel

By Cheva Gabor

U.S. FOREST SERVICE

The U.S. Forest Service will soon be asking the public to weigh in on its proposed plan for managing a 777-acre parcel of land in the hills above Incline Village.

The property, acquired in 2008 by the Forest Service, is the former location of Incline Lake, a reservoir created by a manmade dam. Before the Forest Service purchased the parcel, a safety inspection showed that the dam was at risk of catastrophic failure in an earthquake, threatening downstream development in Incline Village. The sellers drained the lake before the Forest Service purchased it.

During the analysis, the Forest Service received comments in support of building a new dam and restoring the lake, as well as removing the dam and restoring wetlands. Public safety concerns and ecosystem restoration priorities ultimately drove a decision to remove the dam and restore wetlands.

The Forest Service is now prepared to ponder the future of the larger parcel. Based on a series of initial conversations with stakeholders, the agency is preparing to release a proposed action for public scoping that likely will focus on improving the trail network and creating some formal parking, as well as including some of the parcel under the backcountry management designation.

The Forest Service acquired the parcel for its outstanding natural resource and recreation values, with funding from the Southern Nevada Public Land Management Act. Offering first-rate views of Lake Tahoe, the new acquisition has been open ever since for public recreation, with restrictions on motorized access.

The Incline Fuels Reduction and Forest Health project includes wildfire hazard reduction and forest health activities on the parcel. Decisions on winter recreation, including snowmobile access and cross-country ski trail grooming, will likely fall under the Forest Service's winter travel management planning effort, also expected to commence this year.

Public scoping will serve as the first of two comment periods on the Incline Management Plan. To join the project mailing list, send a request to pa_ltbtmu@fs.fed.us. For more information on the project, contact Mike LeFevre, planning staff officer, (530) 543-2840, mlefevre@fs.fed.us.

Cheva Gabor is the public affairs officer for the U.S. Forest Service Lake Tahoe Basin Management Unit.

Photos courtesy of the U.S. Forest Service



Photo courtesy of Tahoe Rim Trail

Snowshoers make their way up a hill with Lake Tahoe in the background.

Tahoe offers a wide selection of snowshoeing trails

By Devin Middlebrook

TAHOE REGIONAL PLANNING AGENCY

For centuries, people have used snowshoes to navigate the deep winter snows at Lake Tahoe. The Washoe used snowshoes made of manzanita branches and deer hide to hunt and travel long distances over deep snow. Early settlers used snowshoes to cross snowy mountain passes on their way west during the Gold Rush. Native animals like the snowshoe hare have adapted to Tahoe winters with big webbed paws, their own versions of snowshoes. Today, modern technology has pushed snowshoeing into the world of winter recreation.

Trails and vistas are plentiful all around the Tahoe Basin. Consider the North Shore for example. A variety of trails from beginner to advanced levels can be found in Tahoe City, Kings Beach, and Incline Village.

Located in Tahoe City, the **Tahoe City Cross Country Ski Area** offers easy access to a 1.25-mile maintained snowshoe track. In addition, it has over 40 miles of groomed trails for cross-country skiers. For those looking to try a new form of recreation, rental equipment is available at this location.

Just south of Tahoe City, **Ward and Blackwood canyons** are home to peaceful meadows and stunning peaks. In Ward Canyon, the Paige Meadows trail is a 1.5-mile loop that winds its way up the canyon, revealing beautiful mountain and lake views. This trail also crosses

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Bijou Bike Park takes off



Photo by Mike Volmer

Public-private partnership led the way to 5-acre park's creation

By Devin Middlebrook

TAHOE REGIONAL PLANNING AGENCY

Hundreds of community members gathered at Bijou Community Park in South Lake Tahoe this September to celebrate the grand opening of the Bijou Bike Park.

Speeches from Mayor Hal Cole, President of the Bijou Bike Park Association Ben Fish, and Ted Wendell, brother of Tom Wendell, to whom the bike park is dedicated, echoed the excitement of the crowd.

The bike park, at roughly 5 acres, was built out of a community-based collaboration. The park includes a BMX track, slopestyle course, wooden jumps, and pump tracks.

Designed for riders of all ages and skill levels, the features of the bike park start small and get progressively larger, allowing riders to learn new skills and push their abilities.

The idea for a bike park was born in 2011 with nothing more than a rough sketch on a napkin. Since then, a partnership between the City of South Lake Tahoe, Bijou Bike Park Association, Tahoe Area Mountain Bike Association,

and South Lake Tahoe BMX Association made the bike park a reality. City staff and volunteers from the community worked side by side for several months to get the bike park completed.

"The Bijou Bike Park is a celebrated example of a project that was made possible through a partnership between the city, Tahoe Area Mountain Bike Association and South Lake Tahoe BMX," Cole said.

"This project would not have been possible without this partnership and the multitude of volunteers and countless hours worked. There's definitely a sense of community pride in the Bijou Bike Park."

"The completed park is proof that great things can happen when the community rallies together to work with local agencies and the city. We were presented with an idea in a professional and articulate manner. The project was met with helpful support throughout the four-year process of design, permitting, and construction. The example of our collaboration here in Tahoe is now being used to help get similar bike parks built around the

country. Once again Tahoe is setting a national example by enhancing recreation while being sensitive to the environment."

Roughly \$200,000 was spent to construct the bike park. A majority of this money came from the City of South Lake Tahoe, but the partnership with local organizations and nonprofits kept costs down significantly.

Businesses in the community also stepped up by donating materials, equipment, and services.

The city brought in Elite Trax Inc., which has built three Olympic BMX tracks and 40 World Cup tracks, for the construction of the track. In addition, volunteers spent hundreds of hours moving dirt, shaping jumps, and smoothing turns.

With only 100 public bike parks in the United States, the Bijou Bike Park serves as a model for community-driven recreation projects in the Lake Tahoe Basin and beyond. The new park is a central hub for biking in South Lake Tahoe.

Devin Middlebrook is an environmental education specialist with the Tahoe Regional Planning Agency.

South Tahoe Greenway project

A bikeway is going where a freeway was once planned on the South Shore

By Chris Mertens

CALIFORNIA TAHOE CONSERVANCY

In the 1960s, state transportation planners were moving forward with a new four-lane freeway connecting Meyers directly to the casinos at Stateline. Planners envisioned thousands of motorists speeding to and from Stateline to bypass congestion closer to Lake Tahoe. But support for the freeway dwindled as its potential environmental and social impacts became apparent, and the California Tahoe Conservancy (CTC) acquired the right-of-way from Caltrans in return for providing impervious land coverage for other Caltrans projects in the Tahoe Basin.

Today, this same right-of-way is the centerpiece of the Conservancy's South Tahoe Greenway project, a world-class bike and pedestrian trail that will connect South Shore's neighborhoods, schools, and commercial districts.

"The Greenway will form the backbone of the bike and pedestrian network in South Lake Tahoe," said Peter Fink, a member of the Parks and Recreation Commission for the City of South Lake Tahoe. "We are thrilled that the first section is complete and are eager for the connection to the Bijou Bike Park and college."

The first section, completed in October 2015, links Herbert Avenue and Glenwood Way.

The second phase, funded through a nearly \$2 million grant from the California Transportation Commission and funding from the Tahoe Transportation District, Lake Tahoe Community College, and CTC, will add two sections across Bijou Meadow and

over Trout Creek to connect the Bijou and Sierra Tract neighborhoods.

Once the second phase is completed, Bijou and Sierra Tract residents will be able to walk or bike to Bijou Elementary School, the Family Resource Center, the new Bijou Bike Park, the community playfields, and Bijou Community Park.

Meanwhile, Lake Tahoe Community College students will no longer have to drive or bike along busy roads to get to campus.

"The Greenway fits perfectly into our long-term vision for the college. It will increase access and mobility for our students, many of whom live in nearby neighborhoods and lack a direct route to campus," said Kindred Murillo, president of Lake Tahoe Community College. "We are pleased to partner with the Conservancy in this effort."

Completion of the first section of the Greenway is part of an unprecedented upsurge in new bike and pedestrian facilities in the region.

Completion of the Bijou Bike Park and new bike trails along Sawmill Road and Lake Tahoe Boulevard in the last year highlight steady progress toward improving the safety, connectivity, and value of South Shore's bike network.

"Lake Tahoe is emerging as a destination for bicyclists across the country. The investments made in South Shore are drastically improving Lake Tahoe's bike network by creating trail connections that allow residents and visitors to leave their car behind and still get where they want to go," added Fink. "Projects like the Greenway are moving us in the right direction."

Chris Mertens is an associate environmental planner at the California Tahoe Conservancy.



The first section of the Greenway links Herbert Avenue and Glenwood Way in the Bijou neighborhood of South Lake Tahoe.

Photo courtesy of California Tahoe Conservancy

California authorities award \$7 million to other bike and pedestrian projects around the lake

In addition to the South Tahoe Greenway project, the California Transportation Commission awarded nearly \$7 million to two other bike and pedestrian projects in the Tahoe Basin.

The grants were awarded to the Lake Tahoe Bikeway Partnership, a coalition of agencies and governments working to improve bicyclist and pedestrian safety and complete the Lake Tahoe Bikeway, a

comprehensive multi-use trail network around the lake. The coalition includes Tahoe Regional Planning Agency; California Tahoe Conservancy; Tahoe Transportation District; City of South Lake Tahoe; Washoe, Douglas, El Dorado, and Placer counties; U.S. Forest Service; Tahoe City Public Utility District; North Tahoe Public Utility District; California State Parks; and Nevada State Parks.

The City of South Lake Tahoe will receive \$2.14 million for the Al Tahoe Boulevard Safety and Mobility Enhancement Project, which will upgrade road crossings and build new Class I and Class II trails. The project runs from Al Tahoe and Johnson boulevards to U.S. Highway 50, and will improve pedestrian and bicyclist safety and South Tahoe Middle School access.

In addition, the Tahoe Transportation District is receiving \$4.9 million for bicycle and pedestrian features for the State Route 89/Fanny Bridge Community Revitalization Project in Tahoe City.

The project will add landscaping, limited on-street parking, and sidewalks. The project also will extend the Tahoe City bike path network from Sugar Pine Point State Park to Meeks Bay.

Park foundation keeps history alive

With special events, tours, and maintenance work, group quietly helps keep parks in good shape

By Jim Sloan

TAHOE IN DEPTH

When Heidi Doyle finds out that you're heading over to the Hellman-Ehrman historic mansion at Lake Tahoe, she makes an unexpected suggestion.

"Bring a picnic lunch and sit on the lakeside porch," she'll tell you. "Sit in the wicker furniture and just make yourself at home. It belongs to you."

The Hellman-Ehrman Mansion in Sugar Pine Point State Park is just one of the many historic attractions at Lake Tahoe that Doyle's group, the Sierra State Parks Foundation, works to preserve for the public to enjoy. Doyle is the executive director of the foundation, which raises funds to help maintain and bring educational programs to the California State Parks at Lake Tahoe and Truckee.

Thanks to the Sierra State Parks Foundation, places like Vikingsholm in Emerald Bay State Park, Sugar Pine Point State Park, and Donner Memorial State Park now have a wide array of educational opportunities, including:

- School tours and field trips for local elementary school children. These trips to Vikingsholm and the Hellman-Ehrman Mansion introduce students to the cultural history and environmental concerns of the Tahoe area.
- Guided tours of Vikingsholm and Hellman-Ehrman Mansion. The Foundation has committed to continuing these tours from May 23 through Sept. 30 through 2020, giving visitors a rare opportunity to wander through the rooms and see first-hand what life was like at the turn of the last century.
- Support for the new Donner Visitor Center at Donner Memorial State Park, including funding for a museum coordinator and developing a volunteer docent team
- Various fundraisers and public events like "Living History Day" at Sugar Pine Point State Park, "Twilight Wanderings" at the Hellman-Ehrman Mansion, and concerts and the "Conversations with History" program at Vikingsholm.

The foundation is central to organizing the volunteers who help keep parks and their programs rolling. Volunteers staff the visitors centers, assist in public events, or work as docents at historical features.

Fees collected from the tours pay for

the tour guide staff, but also for the daily housekeeping of the buildings and curator staff for the maintenance of the artifacts, Doyle said. In addition, these fees pay for groundskeepers and maintenance personnel not included in the state parks budget. Tours for school groups are free.

Just as importantly, the foundation raises funds to fill in gaps in state parks budgets. Its contributions help replace roofs and windows, repair decaying electrical systems, and restore plaster ceilings.

"If it weren't for groups like us, many of our important Lake Tahoe historic structures would continue to deteriorate," Doyle said.

And so the group keeps its eye on two objectives — the summer-long "honey-do" lists of repairs and maintenance, and a long-term solution to funding the costly maintenance for treasured historic buildings that dot the Tahoe shoreline.

In addition, the group is actively raising money for other projects, including:

- Operations support for the Donner Memorial State Park Visitor Center.
- A \$35,000 gardens restoration project for Vikingsholm.
- Ongoing maintenance and support for over 15 kilometers of free, groomed cross-country skiing trails at Sugar Pine Point. This work has helped resurrect the trails used in the 1960 Winter Olympics.
- An \$85,000 restoration of the South Boathouse at the Hellman-Ehrman estate, where the 1903 historic marine railing system was damaged by a fierce storm in 2012.
- \$40,000 for Interpretive Trail Signs for Washoe Meadows State Park.
- \$60,000 for a mobile "Parks on Wheels" educational trailer to be based at Kings Beach State Recreation Area and used throughout the area.

One way Doyle knows all the foundation's work is having an impact are the letters she gets from students. She gets hundreds each year.

"My favorite thing was the writing room," wrote one student in 2014 after a field trip to Vikingsholm. "It was so cool how not one nail was used to build that room. I also like the spikes to keep the



The Hellman-Ehrman Mansion (above) sits in the snow after a recent storm. During the summer months, volunteers like David Stronck (below) help the Sierra State Parks Foundation at events like Living History Day.



evil spirits away, just like the dragon beams."

"Letters like that remind me that we're making a difference," she said.

Doyle, a former Lake Tahoe supervising park ranger at Donner Memorial, sees field trips as an essential part of the educational curriculum. She got her own exposure to wild areas and historic landmarks as a child through field trips, and later noticed the same effect on her own children when she would chaperone their school field trips.

"Educational experiences outside the classroom promote a better self-image, increased empathy for others, and reduced behavioral problems," she wrote recently in her group's newsletter. "The transformation that exposure to our park sites provides transcends social and economic barriers."

Doyle said the seeds for the foundation were sown in 1968, when the California Department of Beaches and Parks (the forerunner to the California State Parks) planned to replace the Hellman-Ehrman Mansion with a lakeside campground. A committee was formed and the mansion was saved, and the foundation formally organized in 1973 as the Lake Tahoe State Parks Advisory Committee and went through a few name changes before adopting its current name in 1983.

The foundation has a small staff and makes sure that the vast majority of its donations go to projects. Their work focuses on the seven state parks in the Tahoe-Truckee Region — D.L. Bliss, Emerald Bay State Park, Washoe Meadows State Park, Donner Memorial, Sugar Pine Point, Kings Beach State Recreation Area, and Tahoe State Recreational Area.

"Our historic sites represent a time in our history where life was simpler and we were more in connection with the natural environment," Doyle said. "Our Lake Tahoe historic sites, because they are in the public domain and cared for by organizations such as ours, will always remain places to remind us of the importance of family and creating experiences that both connect us with the natural world and earlier times."

A backcountry skier's dream



Photo by Geoff Clarke

A skier carves above Cascade Lake and Emerald Bay.

Landscape surrounding the lake offers a variety of challenging terrain

By **Becky Bell**

Backcountry skiing has put the adventure back into winter sports. While major advancements in ski gear have made it easier to access the mountains, more and more people are headed into the backcountry for a variety of reasons. Some go out seeking solitude, renewal, and communion with nature. Others are on a quest to ski new lines for the pure adrenaline rush, and the physical and mental challenge. Whatever the motivation, the popularity of backcountry skiing at Lake Tahoe has reached new heights, tempting us to go deeper into our mountain sanctuary to find ourselves in nature's perfection.

The most accessible Lake Tahoe backcountry ski areas are Desolation Wilderness, Carson Pass, and Mount Rose. Characterized by a jagged ridgeline of towering peaks at 9,195 feet and steep chutes above jawdropping views of Emerald Bay and Lake Tahoe, Desolation Wilderness is an expert backcountry skier's dream. Carson Pass,

at 8,574 feet, is 27 miles south of Lake Tahoe, and boasts a gentle approach to Round Top (10,381 feet) with its spellbinding, rugged landscape and open bowl of aesthetic ski lines. It's also a jumping off point for longer tours into Mokelumne Wilderness.

On the North Shore, Mount Rose, an extinct volcano and the second highest peak in the Tahoe Basin at 10,776 feet, offers spectacular views and varied terrain. It offers highway access to Tahoe Meadows, which is ideal for snowshoers and the beginner backcountry skier. Don't forget your SNO-PARK permit. Available at most ski shops and gas stations, a permit is required for each vehicle parked at a SNO-PARK site from Nov. 1 through May 30 of each year.

Without a doubt, equipment innovation has improved our ability to access the backcountry. Alpine touring and telemark bindings are lighter, safer, and more available. Avalanche transceivers are faster and

more intuitive. To have a safe and fun adventure, it is critical to understand how to use an avalanche transceiver, probe, and shovel in a variety of rescue scenarios.

Every person who plays in the Tahoe backcountry, whether on skis, a split snowboard, snowshoes, or a snowmobile, should take an avalanche awareness safety course to learn about the anatomy of an avalanche, terrain analysis, safe travel techniques, trip planning and preparation, decision making, problem solving, beacon and rescue techniques, and group dynamics. The learning never stops. You need to practice rescue drills constantly with your backcountry partners to hone your mountaineering skills and to develop mountain sense.

There's no app for that.

Becky Bell owns B² Marketing Communications, and is the creator of Tahoe Arts and Mountain Culture, www.TahoeCulture.com

Agencies and skiers working to improve backcountry access

A Caltrans water-quality improvement project completed this fall on State Route 89 eliminated some roadside dirt parking areas that provided access to popular backcountry skiing areas on Tahoe's West Shore.

After the Tahoe Backcountry Alliance and many skiers voiced concerns, Caltrans and the Tahoe Regional Planning Agency amended the highway project to install a paved 25-by-180 foot pullout just south of D.L. Bliss State Park. California State Parks also announced that it will plow the visitor center parking lot at the state park to provide winter parking.

TRPA, backcountry skiers, and numerous agencies are continuing the conversation about improving access to Tahoe's most important backcountry skiing locations.

Reducing stormwater pollution remains a top priority for agencies because fine sediment from roads and other developed areas is a major contributor to the decline in Lake Tahoe's famed water clarity. But TRPA and other stakeholders believe those measures can be better balanced with recreation access needs.

The initiative will tie into the corridor planning process TRPA and the Tahoe Transportation District have undertaken to identify projects to improve recreation access, parking, safety, and transit service along the highways around Tahoe. For more information on corridor planning, visit linkingtahoe.com.

Additionally, in 2016 the U.S. Forest Service Lake Tahoe Basin Management Unit will begin the update to its winter travel management plan, a process that will look at parking and management of both motorized and non-motorized winter recreation activities.

Sierra Avalanche Center: Tahoe's Backcountry Lifeline

Lake Tahoe and Truckee have several certified mountain guides and backcountry educators who offer avalanche awareness courses and guided adventures. Many can be found on the Sierra Avalanche Center website, SierraAvalancheCenter.org, which provides daily avalanche advisories and forecasts, snowpack observations, and weather conditions. The non-profit Sierra Avalanche Center is a partnership with the Tahoe National Forest to provide avalanche forecasting operations and educational programs funded through donated Tahoe resort lift tickets and trail passes, sponsorships, grants, donations, memberships, and fun community events.

Best in the Basin projects enhance Tahoe environment

TRPA's 25-year-old program recognizes 10 exceptional improvement projects

By Tom Lotshaw

TAHOE REGIONAL PLANNING AGENCY

All around Lake Tahoe, projects are improving our environment and enhancing our communities, as shown by the 10 projects the Tahoe Regional Planning Agency recognized this year through its Best in Basin awards program.

TRPA created the awards program 25 years ago as a way to showcase exceptional projects at Lake Tahoe.

Projects awarded Best in Basin honors this year upgraded highways to reduce stormwater pollution and improve bike lanes and sidewalks; built bike trails; improved water quality; restored environmentally sensitive areas; revitalized blighted buildings; and created defensible space for better wildfire protection.

Bijou Erosion Control Project

South Lake Tahoe and partner agencies created this area-wide stormwater system to capture, treat, and infiltrate urban runoff from the 42-acre Bijou Commercial Core. Tucked out of sight with its pipes and pumps underground and its infiltration basins upstream, the system will reduce stormwater pollution from the area by an estimated 96 percent. The project also created a commercial facilities district, allowing highly constrained, over-covered properties in the area to pay a yearly assessment for the system's maintenance in exchange for a Best Management Practices (BMP) certificate from TRPA.



The Bijou Erosion Control Project treats urban runoff from a 42-acre urban area.

All photos by Tom Lotshaw, unless otherwise noted.



A cyclist negotiates part of the 1.7 miles of bike trail on the west side of Lake Tahoe Boulevard.



The Harrison Avenue Streetscape project revitalized an important commercial area near the popular Lakeview Commons.

Harrison Avenue Streetscape Improvement Project

South Lake Tahoe and private property owners teamed up to overhaul Harrison and Riverside avenues with improved roadways, sidewalks, bike trails, parking, landscaping, and street lighting. The project revitalized an important commercial area near the popular Lakeview Commons site, and created a new stormwater system to reduce fine sediment pollution into Lake Tahoe. Property owners can tie into the system and pay an annual assessment for its upkeep in exchange for a BMP certificate.

Highway 50 Water Quality Improvement Project

Caltrans upgraded 1.7 miles of Highway 50 between the Lake Tahoe Airport and the "Y" intersection in South Lake Tahoe — a stretch of road that hundreds of thousands of people travel each year to reach the South Shore. This multiple-partner, multiple-benefit project included not only water-quality improvements, but new and improved sidewalks, bike lanes, and landscaping.

Lake Tahoe Boulevard Enhancement Project

El Dorado County built 1.7 miles of Class 1 bike trail on the west side of Lake Tahoe Boulevard from Viking Road to Sawmill Road. This new trail connects residential areas to South Tahoe High School, the transit center at the "Y" intersection, and Sawmill Pond, creating an important new link in this area's bike

Continued on next page



The Highway 50 Water Quality Improvement Project included new sidewalks, bike lanes, and landscaping.

Photo by Mike Vollmer

Best in the Basin

From upgraded highways to remodeled buildings, winners helped rebuild, improve Tahoe Basin

trail network. A second phase of the project continues the trail to Meyers.

State Route 207/Kingsbury Grade Reconstruction Project

Nevada Department of Transportation overhauled this highway corridor from Highway 50 to Daggett Summit, reducing erosion, improving water quality and roadside vegetation, and installing wider road shoulders for bicyclists. NDOT also built a new trailhead and road crossing for the Tahoe Rim Trail. The project's innovative construction approach allowed work to be completed in one year instead of three.



Kingsbury Grade was rebuilt from Highway 50 to Daggett Summit.

Kingswood Tank/Booster Pump Demolition and Griff Creek Restoration Project

North Tahoe Public Utility District removed an aging 500,000-gallon water tank, booster pump station, and access road from a stream environment zone on Griff Creek and restored the floodplain and native vegetation. The project removed 10,000 square feet of coverage and restored wetland, meadow, and other riparian plant communities along Griff Creek.



The owners of this Tahoma home installed rock-lined bio swales to treat stormwater runoff.

Smith Best Management Practices Retrofit Project

Basile Management Practice and property owner James Smith improved a compacted dirt driveway and parking area at this lakefront home in Tahoma. They installed rock-lined bio swales to treat stormwater runoff, created a grass paver overflow parking area, and landscaped the site with native vegetation.

Incline Pines Homeowners Association Defensible Space Project

Homeowners in this Incline Village neighborhood partnered with Rockwood Tree Service and Defensible Space Specialists and the North Lake Tahoe Fire Protection District to remove brush and trees and create defensible space through the entire neighborhood. The project is a great example for other Lake Tahoe neighborhoods that want to be better prepared for wildfire.



Incline Pines worked to create defensible space in their neighborhood.

SUP Tahoe – South Shore Bikes Project

David Goldman Environmental Architecture and property owners Jessica Howitt and Brandon Miller remodeled a blighted and abandoned restaurant on State Route 89 in South Lake Tahoe into an attractive new home for this recreation business and its bike and standup paddleboard shops.



Photos courtesy of David Goldman Environmental Architecture

A South Tahoe blighted property was remodeled to become a bike and paddleboard shop.

Tahoe Truckee Community Foundation Community House

Tahoe Truckee Community Foundation, Placer County, and many community partners overhauled a blighted and abandoned hotel in Kings Beach into this Community House for social services previously scattered around the North Shore, including North Tahoe Family Resource Center, Project Mana food bank, Tahoe Safe Alliance, Placer County Mental Health Services, and the Women-Infant Children's Project. These groups and agencies are now centrally located in this one attractive building, making for easier referrals among programs and better community service.



An abandoned Kings Beach hotel was overhauled and became the home for social services agencies.

Tom Lotshaw is the Public Information Officer at the Tahoe Regional Planning Agency.

Photo courtesy of Beth Moxley

200 years of Tahoe art

Museum showcases 400 pieces of art and artifacts from lake's rich history



By Tom Lotshaw
TAHOE REGIONAL PLANNING AGENCY

From handwoven baskets to sculptures, paintings, photographs, and modern art, an exhibition at Nevada Museum of Art in downtown Reno explores 200 years of art history inspired by Lake Tahoe, Donner Pass, and the surrounding Sierra, one of America's most inspiring and beloved landscapes.

"TAHOE: A Visual History" showcases more than 400 pieces of art and artifacts the Nevada Museum of Art worked for five years to assemble from museums, libraries, archives, and private collections around the country.

The museum-wide exhibition opened in August and is on display through Jan. 10, 2016. Fifteen-thousand people visited the first two months.

"This is a very comprehensive and foundational project for our region," said Ann Wolfe, senior curator and deputy director at Nevada Museum of Art. "This is a once-in-a-lifetime chance for people because these objects will likely never be together in one place again."

The exhibition is organized around sections and themes. They include native basketry, life, and legends; first European American views and historical mapping and sketches; 19th century painting; 150 years of Tahoe photography; Tahoe timber; architecture and the rise of the resort and leisure; and contemporary art. Together, they show

how Tahoe has inspired artists and influenced art and culture for more than two centuries, and how it continues to do so today.

"Fine art and art history in many ways define people's understanding of place and cultural identity. This exhibition filled a significant gap in our regional knowledge and our understanding of ourself and what this region has contributed to our nation's art history," Wolfe said.

Native Basketry

The exhibition opens with some of Tahoe's earliest art, and the largest collection of Washoe baskets ever assembled in one place. For generations, the Washoe wove to meet their needs, creating various baskets and tools and tending willow groves to raise the best possible withes for their weaving.

The Washoe wove "burden" baskets that were used to carry heavy loads between Washoe Valley and their sacred mountain lake; cradles to carry infants; baskets to store and serve food; "beaters" used to harvest seeds; scoops and trays; and traps to catch fish in streams.

The Washoe wove especially tight containers to hold water, making large ones for storage at their camps and small ones to carry along for travel. When filled, the containers' willow fibers swelled to make them nearly watertight, and a coating of pitch enhanced that seal and flavored the water.

Woven snowshoes allowed the Washoe to travel over the snow, "skimming along like birds," according to one account by 19th century explorer John Charles Fremont.

The exhibition includes many of these functional examples of Washoe basketry. But it also features the highly decorative, fine art baskets created by Louisa Keyser (Datsolalee) and other well-known Washoe weavers. Washoe baskets were highly sought after during an arts and crafts movement in the late 19th and early 20th century, when middle-class households around the country were collecting baskets and other handmade Americana to decorate their homes.

Mapping a Lake in the Sky

The exhibition's section on mapping and sketches highlights the imaginations and the discoveries of early mapmakers and explorers, and the gradual appearance of the lake that has been variously known as Mountain Lake, Lake Bonpland, Lake Bigler, and, finally, Lake Tahoe, on maps of the vast American West.

John Charles Fremont was the first European American to spot Lake Tahoe. Standing on a peak near Carson Pass with scout Kit Carson in 1844, Fremont reported, "a beautiful view of a mountain lake at our feet, about 15 miles in length, and so entirely surrounded by mountains

that we could not discover an outlet."

Exhibit sections on painting and photography showcase the beauty of Tahoe's natural landscapes and the allure they have had on artists. But they also show the arrival of mining and the railroad, and how those activities left the Tahoe Basin clear cut of trees, denuded and unrecognizable within decades of Fremont's first glimpse of the lake.

That rapid environmental degradation left famed Sierra naturalist John Muir and many others distraught. Muir worked to have Tahoe set aside as a national park, but the effort fell a few votes short in Congress in 1889.

A contemporary art section at the exhibit brings together the works of modern-day artists who continue to draw inspiration from the Tahoe region and, like Muir and many others in the past, remain concerned about its environmental health and future.

Summer Colony at Emerald Bay

The exhibition's section on Tahoe architecture ranges from the conical pole shelters and floating fishing platforms of the Washoe Tribe to the cabins and stores of early settlers and the appearance of hotels, resorts, lodges, and magnificent Tahoe estates.

Coupled with the rise of recreation and resort life at Tahoe, one display focuses on designs that famed



Far left: John Ross Key, View of Lake Tahoe, not dated, Oil on canvas, 16 ¼ x 30 ¾ inches, Collection of Oakland Museum of California, Oakland Museum Kahn Collection

Near left: Photographer unknown, Louisa Keyser marketing photograph with LK 44 and LK 59, commissioned by A. Cohn, circa 1916, Gelatin silver print, 8. x 6. inches, Courtesy of Nevada State Museum, Carson City

Below: Frank Lloyd Wright, Lodge Type Cabin, Lake Tahoe Summer Colony, California: Perspective and Plan, 1923, Graphite and colored pencil on Japanese paper, 21 x 13 ¾ inches, Collection Centre Canadien d'Architecture/Canadian Center for Architecture, Montreal, Gift of George Jacobsen and of the CCA Founders Circle in his memory, 1994, © 2014 Frank Lloyd Wright Foundation, Scottsdale, Arizona/Artists Rights Society (ARS), NY



Project Tracker keeps tabs on environmental improvements

A new website launched this summer puts comprehensive information about the Lake Tahoe Environmental Improvement Program at everyone's fingertips. The tool allows people to easily learn more about the "Lake-Saving Projects" planned and completed in their own neighborhoods and around the Tahoe Basin.

The Tahoe Regional Planning Agency manages the Environmental Improvement Program (EIP) with more than 50 local, state, federal, and private partners. The collaborative program prioritizes and coordinates projects to protect and restore Tahoe's natural environment and improve recreational opportunities, and is one of the most ambitious and successful environmental restoration initiatives in the nation.

Since 1997, EIP partners have invested \$1.8 billion and completed more than 450 projects. EIP projects have been completed throughout the Tahoe Basin, touching practically every community around the lake.

EIP projects have improved stormwater collection and treatment on 703 miles of roadways, cleared hazardous fuels from 59,520 acres of forest, restored 16,000 acres of wildlife habitat, improved public access to 2,770 feet of Lake Tahoe shoreline, and built or improved 143 miles of bike trails and pedestrian routes.

With so much work done, it has been challenging for people to track or find more information about the many EIP projects. The Lake Tahoe EIP Project Tracker changes that, providing quick information about EIP projects.

Launched with grant funding from the U.S. Environmental Protection Agency, the website (www.conservationclearly.org/tracker) puts information about completed EIP projects at the fingers of anyone with an Internet connection.

People can use the Project Tracker to see what EIP projects have been done, when they were done, where they were done, and who completed and funded them. They can also read all about the projects' benefits. People can search projects by implementer, location, or category, view photos, and use the website to create maps, charts, and fact sheets.

"The Project Tracker is a powerful new tool that allows us to demonstrate to the public where funding has been invested to protect the lake for future generations," said Kimberly Caringer, division manager of the Environmental Improvement Program at TRPA.



Citizen scientists report their findings

New app allows lake visitors to add photos, observations to database



Visiting the beach this winter with the Citizen Science Tahoe smart phone app gives people an opportunity to collect and share data about the conditions they find at the shoreline.

By Heather Segale

UC DAVIS TAHOE ENVIRONMENTAL RESEARCH CENTER

Even though it isn't really beach weather, UC Davis scientists are still asking citizens to go to the Tahoe shoreline and record observations year-round.

The UC Davis Tahoe Environmental Research Center (TERC) recently launched a new smart phone app, Citizen Science Tahoe, that encourages beachgoers of all ages to type in what they see at Lake Tahoe — observational data that will be shared with the scientists to better understand conditions around the lake.

Citizen scientists can help lake researchers by taking a few minutes to enter what they see at the beach, from algae to wildlife. Each observation automatically records the user's location and the date and time. Users can also add photos and their own comments, and they earn points for every observation made.

The app is available for both iOS and Android devices.

The UC Davis Lake Tahoe Conditions exhibit is currently under development and will include the photos and observations from the citizens using the Citizen Science Tahoe app. A working beta version of this is currently available at <http://citizensciencetahoe.org/data>.

Click on algae, local species, water quality, or beach conditions to see what people are finding around the lake.

Science needs both sides of the story, so users are encouraged to report on what is good at the beach as well as anything that indicates problems, such as algae, shells, or litter. Volunteers with the League to Save Lake Tahoe's Eyes on the Lake or Pipe Keepers programs can also use the app to record their observations.

This perceptual data will help lake researchers better understand Lake Tahoe's fragile nearshore, the region of the lake we experience the most, but, surprisingly, know the least about. Scientists will compare this information with data from a growing network of real-time sensors to gain a larger view of what's going on in the nearshore. As the number of crowd-sourced observations increases, new information and trends will be discovered.

"There are aspects of water and ecological quality that depend solely on the perceptions of individuals. This is what this app is seeking to measure, from everywhere around the lake at all times of year," said TERC Director Dr. Geoff Schladow. "If you want to contribute to science at Lake Tahoe, simply go to the beach."

Data from the app and the sensors will be available through a science

View the reports

To review any of the real-time data sent in about conditions at Lake Tahoe, go to <http://citizensciencetahoe.org/data/>

Get the app

Share your Lake Tahoe beach experience with Citizen Science Tahoe mobile app. The Citizen Science Tahoe mobile app is available for download at CitizenScienceTahoe.org from the UC Davis Tahoe Environmental Research Center.

center exhibit under development. The future Lake Tahoe Conditions exhibit, developed by UC Davis TERC and funded by the Institute for Museum and Library Services, Nevada Division of Environmental Protection, and North Lake Tahoe Resort Association/Placer County, will explore trends related to lake level, temperature, water color, water clarity, algae, and more.

Viewing the real-time data from around the shore of Lake Tahoe, visitors will be able to explore how conditions are changing over time and at different locations around the lake.

Heather Segale is the education and outreach director for the UC Davis Tahoe Environmental Research Center.

Tahoe Keys outlines weed-control plan

Property owners' work expected to benefit entire lake

By Jim Sloan

TAHOE IN DEPTH

The Tahoe Keys Property Owners Association (TKPOA) has unveiled a multi-year plan to reduce invasive weeds in the subdivision's lagoons.

The TKPOA, working with TRPA and the Tahoe Resource Conservation District, has been studying various control methods over the last five years. TKPOA's multi-year plan calls for using bottom barriers, diver-assisted suction, improved harvesting and fragment control, improved land management, and herbicides.

"The proposed methods are expected to bring the plants under control to, or below, levels that preceded those seen in the early 1980s," said Rick Lind, president of Sierra Ecosystem Associates, Placerville, California, consulting firm working with TKPOA. "The plan can be changed year to year based on the success of various control methods."

Lind pointed out that the proposed herbicides are already approved for aquatic environments by both the U.S. Environmental Protection Agency and the California Environmental Protection Agency and have been tested and proven to be nontoxic to humans and animals. The Lahontan Regional Water Quality Control Board's Basin Plan amendment allows consideration of the use of herbicides on a case-by-case basis, and any chemical use in the Keys must first go through an environmental review and permitting process.

An expert panel of five scientists reviewed the control plan, including the use of herbicides, and unanimously supported using pesticides to eradicate the weeds. The expert panel's report can be found at www.KeysWeedsManagement.org.

The Tahoe Keys consists of 172 acres of winding waterways that provide water access to Lake Tahoe for 1,500 housing units. When these lagoons were created in the 1960s, they were free of aquatic plants. But invasive aquatic weeds began showing up in the 1980s and have spread to where 90 percent of the channels are infested with nonnative plants.

To maintain boating passage, the weeds are cut and harvested each year



Photo courtesy of Lars W. J. Anderson



The Tahoe Keys Property Owners Association uses five harvester boats (above) to maintain boating passages within the Keys' 172 acres of winding waterways, many of which are choked with Eurasian watermilfoil (left), an aquatic weed.

by five harvester boats at an annual cost of \$400,000. But the volume of weeds continues to increase. The amount harvested has grown from about 1,500 cubic yards in the mid-1980s to over 15,000 cubic yards in each of the last five years.

The main culprits are Eurasian watermilfoil, which first showed up in the 1980s, curlyleaf pondweed, which appeared in the channels in 2003, and a nuisance native plant called coontail.

Curlyleaf pondweed is of particular concern, Lind said, because it spreads rapidly, roots firmly, can tolerate wave disturbances, and can spread to deeper waters, making the risk to all of Lake Tahoe much greater. Curlyleaf pondweed produces thousands of

For more information:

KeysWeedsManagement.org

reproductive particles that can be carried by boats or floating fragments and infest new areas.

Although both invasive plants are found in other areas of Lake Tahoe, the Tahoe Keys plan would minimize levels within the Keys, and would greatly help lake-wide efforts to prevent widespread infestations, Lind said. Based on extensive comments received on the draft plan during the August/September 2015 public review period, the plan is now being revised and will be submitted to Lahontan and TRPA within the next two months."

FAQs about the Keys' weeds

The following are some questions and answers posted by the Tahoe Keys Property Owners Association on its website, KeysWeedsManagement.org

Why should anybody outside of the Tahoe Keys care about the aquatic weed problem?

Tahoe Keys' weed problem is Lake Tahoe's weed problem — as long as the weeds are allowed to grow in volume, they are a source for fragments to spread into the lake and become established. Successfully controlling weeds in Lake Tahoe requires controlling them in the Tahoe Keys and other marinas.

What solutions are you exploring for the weeds?

Our consultant (Sierra Ecosystem Associates), in association with aquatic weeds expert Dr. Lars Anderson, have explored a wide range of options. They are proposing modifying existing harvesting techniques, placing bottom barriers, collecting fragments to reduce spread, selectively applying herbicides, using diver-assisted weed removal, improving stormwater management, and altering TKPOA landscaping practices to reduce nutrient load, and improve boater maintenance practices.

What are the challenges in implementing those solutions?

The proposed solutions (as presented in TKPOA's Draft Proposed Plan) must go through about 1½ years of environmental, public, and agency reviews and agency permitting. The review processes will look at all possible alternative solutions, as well as how best to measure the success of the solutions.

Will those solutions get rid of weeds completely?

The goal is to greatly reduce the volume of weeds in the Keys, but it is unlikely that they can be eliminated entirely. By drastically reducing weed volume, however, we can limit spread and reduce required yearly maintenance activities, while also improving native habitat, recreation, and water clarity. It took decades for the weeds to spread throughout the Keys. Once the weed growth is brought under control, maintenance will be limited to site-specific problem areas that can be readily managed.



Photo courtesy of Pixabay

A snowshoer strikes off for the woods.

Continued from page 6

the Tahoe Rim Trail for those looking to explore further into the Tahoe backcountry. Winding trails follow the steep slopes of Blackwood Canyon, offering unique terrain and stunning views of Lake Tahoe from the top of Eagle Rock.

To the east, the North Tahoe Regional Park in Tahoe Vista has a variety of trails available in the winter for snowshoeing, from mellow walks to more challenging steep climbs; there is even a three-quarter-mile nature trail. Discover a piece of Tahoe history with a short hike to the Crystal Bay Fire Lookout, which was once used to spot wildfires in the Tahoe Basin. This loop trail is known for panoramic views as well as informational signs about Tahoe history.

Incline Village in Nevada offers a number of groomed trails perfect for enjoying an easy walk through the snow. These trails can be found at the Incline Village Championship Golf Course and Incline Village Fitness Trail off Lakeshore Boulevard. The Tunnel Creek Trail in Incline Village winds up the mountains above the East Shore and follows the historic flumes from the Comstock logging era.

For those looking to venture deeper into the wilderness, the Tahoe Rim Trail, at 165 miles long, provides stunning, birds-eye views of Lake Tahoe. During the winter, snowshoeing is the best way to navigate this trail. Easy points of access to the Tahoe Rim Trail include Brockway Summit, Mount Rose, and the Tahoe City Transit Center.

From a short afternoon walk to an all-day adventure, there is no shortage of trails to explore in the winter along the North Shore of Lake Tahoe.

Plastic bag ban starting to pay off

Rules in South Lake Tahoe, Truckee help eliminate waste from environment

By Jim Sloan
TAHOE IN DEPTH

It's been nearly two years since the City of South Lake Tahoe became the first municipality in the Tahoe Basin to enact a plastic shopping bag ban on large grocery stores, and advocates say the initiative has paid off handsomely.

South Tahoe's ban went into effect in January 2014, and it was followed six months later by a ban by the Town of Truckee. South Tahoe officials are discussing whether to ask retailers and nonprofit vendors to start complying with the plastic bag ban. Truckee's ban included both grocery stores and retail outlets. Restaurants are exempt in both municipalities.

"The process went very smoothly for us," said Truckee Recycling Coordinator Nichole Dorr.

"People seemed happy to accept it, and there were very few complaints. This has definitely given us the confidence to look for ways to control other materials that are entering the waste stream."

In July, California enacted a statewide plastic bag ban for large grocery stores, pharmacies and other food retailers. Convenience stores, liquor stores and small food retailers will have to follow suit by July 2016.

According to Truckee and South Lake Tahoe officials, the goal of the bans is to dramatically reduce single-use bag waste. Tossed-out bags are snatched up in the wind to litter the landscape; they take a long time to break down; and the plastic pieces are often mistaken as food by wildlife, which can suffer breathing and digestive problems as a result. Decomposing plastic releases toxins in the soil and water.

"Plastics photo-degrade and break into small pieces," said Marilee Movius, the community engagement manager for the League to Save Lake Tahoe, who organizes beach cleanup efforts each year after the Fourth of July. "These can look like food to wildlife and leach chemicals when in the water. It is important to pack out this trash, as it does not leave the environment."

Then there is the fossil fuel issue. According to Scientific American, plastic is not only made of petroleum but



Photo courtesy of the League to Save Lake Tahoe

League to Save Lake Tahoe volunteers after a beach clean-up.

manufacturing it requires even more fossil fuel consumption.

"The fact that Americans throw away some 100 billion plastic grocery bags each year means we are drilling for and importing millions of barrels worth of oil and natural gas for a convenient way to carry home a few groceries," the magazine reported in 2014.

Nationally, American families take home about 1,500 plastic bags a year, but less than 3 percent of them are recycled. The recycling process is expensive, and litter cleanup costs for each bag that isn't recycled are 20 times the cost of making the bag.

And proponents say the bans can be effective. A 2011 study in San Jose found that plastic litter went down 89 percent in its storm drain system, 60 percent in its rivers and creeks, and 59 percent in city streets and neighborhoods after a ban was enacted.

South Lake Tahoe first considered a bag ban in 2008, about a year after San Francisco became the first U.S. municipality to ban them. Since then, more than 130 cities in 18 states and the District of Columbia have enacted bans. Europe, China, India, and many other nations had bans in effect years ago.

Despite the documented benefits, plastic shopping bag bans remain somewhat controversial. Some groups don't like government intrusions of people's personal choices, and other

critics say the bag bans negatively impact urban poor, small businesses, and people who actually do a good job of responsibly reusing the bags.

The effect of the ban, proponents say, has been noticeable. The League to Save Lake Tahoe, which organizes volunteers to not only clean up littered Tahoe beaches but to sort and count the garbage, notes a sharp drop in the number of plastic bags they collect.

"I definitely attribute the decrease in bags to the reusable bag ordinances in South Lake Tahoe, Truckee, and outside the Tahoe Basin," Movius said. "Banning plastic bags is a solid step forward in protecting our environment."

Raley's in Incline Village has voluntarily enacted a single-use plastic bag ban, and there are petition drives under way in places like Reno to get a ban enacted.

The use of paper bags continues to be a sticking point for some. In Truckee and other places, for instance, shoppers can still purchase paper shopping bags. Stores must record and inventory those sales on all receipts, and the bags must be partly made of post-consumer paper and be 100 percent recyclable.

"The best thing to do is refuse single-use plastic bags and always bring reusables," Movius said. "This not only helps your pocketbook, it helps the environment."

Tahoe invasives battle leads nation



Boat inspections resulted in 3,595 vessels being decontaminated before they were launched at Lake Tahoe in 2015.

Photo by Leeahu Zysberg

Program to halt intruders at the lake has become a national model

By Devin Middlebrook

TAHOE REGIONAL PLANNING AGENCY

The Tahoe Regional Planning Agency and 40 public and private partners continued their nationally recognized battle against aquatic invasive species (AIS) in 2015, identifying dozens of contaminated boats before they could launch and securing sustainable funding that will allow their key boat inspection program to continue.

During the 2015 boating season, Tahoe Resource Conservation District inspectors checked more than 7,500 boats; 3,595 of those vessels were decontaminated and 39 were found to be harboring invasive species.

Several invasive plants and animals are already established in Tahoe, harming water quality and degrading recreational experiences. But other invasive species have yet to find a toehold in Tahoe thanks to efforts to spot them and prevent their introduction.

Tahoe's prevention program has become a national leader in the fight against AIS. This summer Tahoe hosted the annual conference of the Western Regional Panel on Aquatic Nuisance Species. The conference brought together nearly 100 experts from public and private agencies and academic institutions that are dedicated to fighting AIS in the Western United States.

Visiting experts learned more about the successes and challenges at Tahoe; they also shared information about their successes and lessons learned.



University of Nevada, Reno professor Sudeep Chandra discusses invasives at Lake Tahoe with visiting experts and local public officials involved in the fight against aquatic invasive species.

Photo by Devin Middlebrook

This event served as a platform to build relationships across the West by joining forces in the fight against invasive species. On a national level, TRPA joined the Aquatic Nuisance Task Force, a federal advisory group that helps guide national AIS policies.

The boat inspection program currently has sustainable funding through a mix of boater fees and state funding from California and Nevada.

With a robust prevention program in place, work is now being directed at control projects to combat AIS already present in Lake Tahoe.

Science continues to drive the

direction of the Lake Tahoe Aquatic Invasive Species Program. Earlier this year, researchers at University of Nevada, Reno released the "Implementation Plan for the Control of AIS in Lake Tahoe." This science-driven plan provides a roadmap for the fight against invasive species already present in Lake Tahoe. It identifies the species that have the best chance for control or eradication and locations where control projects would have the most impact. The plan emphasizes the control of aquatic invasive weeds Eurasian watermilfoil and curlyleaf pondweed as well as warmwater fish.



Jeremy Jones is featured in the "Plates for Powder" campaign.

Photo: Courtesy California Tahoe Conservancy

Plates for Powder promotion offers free lift tickets

By Chris Mertens

CALIFORNIA TAHOE CONSERVANCY

California and Nevada residents who purchase a Tahoe license plate this winter will receive two free lift tickets valid for this season to participating Tahoe ski resorts. Even better, license plate fees go directly to environmental improvement projects at Lake Tahoe.

Fees collected from license plate sales and renewals are administered by the California Tahoe Conservancy and Nevada Division of State Lands. The plate fees generate approximately \$1.4 million annually to support trail, recreation, water quality, research, and restoration projects in the Lake Tahoe Basin.

In recent years, plate fees provided funding for the bike trail along Sawmill Road near Meyers, the Tahoe Pines river access and restoration project along the Upper Truckee River, and forest health and fuels-reduction projects on the North Shore.

On the Nevada side, the program has recently funded invasive weed removal, facility upgrades at Sand Harbor State Park, and watercraft inspection education and outreach.

Returning for its sixth year, the Plates for Powder promotion is a public-private partnership with the Tahoe Fund, the California Tahoe Conservancy, the Nevada Division of State Lands, and all of the participating ski resorts to promote the sale of Tahoe license plates. The campaign runs November through April and lift tickets are valid for the 2015-16 ski season.

To learn more or purchase a plate, visit www.tahoeplates.com. For more information on the Conservancy or Nevada Division of State Lands, visit <http://tahoe.ca.gov/> and <http://lands.nv.gov/>.

Participating ski resorts include Diamond Peak, Heavenly Mountain Resort, Homewood Mountain Resort, Kirkwood Mountain Resort, Mt. Rose, Northstar California, Royal Gorge Cross Country, Sierra at Tahoe, Squaw Valley/Alpine Meadows, Sugar Bowl, Tahoe Cross Country, and Tahoe Donner.



Tom Carter, right, with a friend after he finished muscling the engine block to shore.

Picking up Lake Tahoe litter, one dive at a time

Devin Middlebrook

TAHOE REGIONAL PLANNING AGENCY

You can usually find longtime local Tom Carter enjoying the calm waters of Carnelian Bay on his standup paddleboard. Several years ago, while on his morning paddle, Carter noticed dozens of old tires, originally used as bumpers for boats on piers in the early 1900s, sitting on the bottom of the lake. Carter dove off his paddleboard to remove one of the tires. This was the first dive of what would become a new passion.

Since that day, Carter has collected 115 tires from the bottom of the lake, sometimes diving 35 feet deep to reach them. Carter has also begun retrieving larger debris, including chains, water pipes, and engine blocks. To recover some of the larger items, Carter diligently moves them along the bottom of the lake a few feet at a time until he reaches the beach.

"It's amazing what you can do when you have a purpose," Carter said. "When you have a chance to clean up the lake, just do it."

Carter feels a true connection with the lake, using nothing but his paddleboard and a deep breath of air to bring long lost junk to the surface. Not using any heavy equipment or scuba gear gives Carter a greater connection with the lake and his effort to clean it up. He simply wants to leave Tahoe a little better every time he gets to enjoy its natural beauty.

He also wants to be an example for everyone who visits Lake Tahoe, encouraging them to take that extra step or two and pick up litter, no matter how it got there. "Little things can make a big difference, from picking up cigarette butts to cans and dog poop, or even trash on the bottom of Lake Tahoe," Carter said.

The Tahoe Regional Planning Agency recognized Carter for his efforts by awarding him a Lake Spirit Award in 2013.

Low water allows pipe clean-up



Photos by Devin Middlebrook

The Boy Scout troop from Danville, California, works on removing an abandoned cast-iron pipe.

Boy Scout project removes pipe and returns shoreline to natural state

By Devin Middlebrook

TAHOE REGIONAL PLANNING AGENCY

The low water level at Lake Tahoe is the starkest reminder of the current drought, with piers and marinas reaching out over sand and rocks that are normally hidden from view.

But sand and rocks are not the only objects being exposed by the drought.

Near Tahoe City, a long-abandoned, cast-iron pipe sat just below the surface for decades, having only the occasional run-in with a boat propeller or kayaker. Installed in the early 1900s, the pipe originally delivered drinking water to Tahoe Tavern from Watson Lake to the north. With the receding lake level, the pipe, now strewn along the shoreline, was visible to all that visited the area.

That is where Eagle Scout candidate Cyrus Miller, 16, and the rest of Boy Scout Troop 228 from Danville, California, decided to step in. With a large section of the pipe now exposed, the troop wanted to take advantage of the situation.

"This drought made it a unique and once-in-a-lifetime opportunity," Miller said. "We wanted to complete a project that made a big impact."

With this goal in mind, Miller and his troop developed a plan to remove the pipe and return the area to a more natural state. Working closely with local agencies — Tahoe Regional Planning Agency, California Fish and Wildlife, California Division of State Lands, Placer County Museums, property owners, NV Energy, Tahoe Tavern, and



Once the pipe was cut up and hauled away, the scouts cleaned the area, removing all trace.

Tavern Shores — the troop created a comprehensive plan for safely removing the pipe.

Using a few power tools and a lot of determination, the seven scouts cut the lengthy pipe into manageable sections. They then removed these smaller sections from the lakebed.

The sections were hauled away and recycled with a little help from Hansen Management & Maintenance Company of Tahoe City. The scouts then cleaned the project area, making it as though the

pipe was never there.

Over the two-day project, the scout troop removed 700 feet of pipe from the lakebed.

At the end of day two, Miller looked over the project area and said, "It is amazing how much of an impact our troop's hard work made."

Several pieces of the pipe were donated to the Placer County Museum, where they will live on to tell the story of Lake Tahoe and its rich history.

Using the lake as a laboratory

Students getting hands-on experience identifying threats to Tahoe

Chris Carney

LEAGUE TO SAVE LAKE TAHOE

It's 10 a.m. on a Tuesday, and a group of Whittell High School students are huddled around Tupperware containers filled with aquatic invasive plants.

"Are these going to make us sick?" asks one student in Whittell High teacher Madeline Cronk's AP environmental science class.

Aaron Hussmann, a community engagement associate with the League to Save Tahoe, clarified that although the plants are harmful to the lake, they're pretty safe for people to touch. Reassured, the students dug in with gusto, practicing hands-on plant identification using their waterproof identification guides.

Aquatic invasive plants like the ones the Whittell High students were learning about pose one of the most significant threats to Lake Tahoe ecology, and the training the students received is similar to the program the League developed for adult volunteers with the Eyes on the Lake program, a citizen science effort to prevent the spread of aquatic invasive species.

"My students were so engaged in identifying invasive species with the Keep Tahoe Blue program," Cronk said. "They feel empowered to use their knowledge to help with environmental issues around the lake."

Despite the fact that Tahoe-area schools have a pristine natural resource and outdoor classroom right at their doorsteps, most school curriculum and projects focus on textbook-based case studies and material. In response to this gap, the League launched its Keep Tahoe Blue Schools program, which uses the lake as a laboratory for place-based learning.

In the past two years, the League's youth programs have educated more than 2,600 Tahoe students and engaged hundreds of youth in its volunteer programs. And the League is not on its own in efforts to bring the lake into the classroom and take Tahoe classes out to the lake. Teachers like Cronk are making tremendous strides in changing how Tahoe issues are taught. Teachers also have outstanding organizations ready to partner with them.

The South Tahoe Environmental Education Coalition (STEEC) provides



Whittell High School students (above) practice their skills identifying aquatic invasive plants with help from Savannah Rudroff, a natural resources associate with the League to Save Lake Tahoe. At the Farm Days event (right), Aaron Hussmann, a community engagement associate with the League, teaches Bijou Elementary School third-graders how meadows help filter pollution before it enters the lake.

leadership in bringing high-quality environmental education programs and projects to Lake Tahoe youth. STEEC is a network of more than 20 local agencies and organizations that have been engaging students with Lake Tahoe Unified School District schools for more than six years.

In September, third- and fourth-grade students convened at Camp Richardson for Farm Day, a field trip meant to share our region's connections to agriculture and our environment. There was a special moment for Bijou Elementary School third-graders when their teacher, Susan Earnest, brought them to Hussmann's station on how meadows help filter stormwater and protect the lake. Earnest's students were amazed to learn that Hussmann, a Tahoe native, had been a student in Earnest's classroom when he was a student.

Once teachers bring Tahoe protection into the classroom, some students dive in deeper than even their teachers expected.

"As part of our project-based learning, we asked the question 'how can we improve lake clarity?'" said Marisa Lopez-Green of Bijou Elementary School in South Lake Tahoe. Hussmann visited her classroom to provide a lesson on pollution from stormwater runoff, the No. 1 source of fine sediment that harms lake clarity. Hussmann also shared tips on action the second-graders could take, borrowing from the League's Pipe Keepers and Stewards of Stormwater programs.

Soon the students had divided themselves into committees, each with its own mission. One group of students delivered a Spanish-language PowerPoint presentation on stormwater pollution to Bijou's fourth-graders. Another team of students took on day-to-day maintenance and cleaning of Bijou's own storm drains, while others focused on outreach to their neighborhoods and persuasive writing projects. "The most exciting piece is the



direct connection to our community and the difference we're making," said Lopez-Green.

Teachers like Lopez-Green, Earnest, and Cronk recognize that youth represent the next generation of Lake Tahoe stewards. With the help of organizations like the League and other STEEC partners, Tahoe teachers have even more tools to connect local students to the lake as the ultimate example of place-based education.

Chris Carney is the communications manager for the League to Save Lake Tahoe.

Summit focuses on wildfire, aquatic invasives

Bipartisan bills pending in Congress seek to reauthorize Lake Tahoe Restoration Act

By Tom Lotshaw

TAHOE REGIONAL PLANNING AGENCY

At the Lake Tahoe Summit in August, California and Nevada officials touted the success of work to restore Tahoe's environment and reaffirmed their commitment to continue to protect the lake from wildfire and invasive species.

But they also made their case for legislation pending in Congress that would continue the federal government's role in funding Tahoe restoration projects.

"By working together we can secure a healthy and prosperous future for the entire Tahoe Basin," said Sen. Dean Heller, R-Nev., who hosted the 19th annual Lake Tahoe Summit at Round Hill Pines Beach Resort in Zephyr Cove.

Heller and Sen. Dianne Feinstein, D-Calif., discussed their introduction of the Lake Tahoe Restoration Act of 2015.

The bipartisan Senate legislation, cosponsored by Sens. Harry Reid, D-Nev., and Barbara Boxer, D-Calif., would authorize up to \$415 million in federal funding over 10 years to help pay for projects to reduce hazardous fuel loads and wildfire risk and improve forest health, reduce stormwater pollution, improve water quality and clarity in Lake Tahoe,

and combat aquatic invasive species.

The legislation would continue the federal government's investment in Lake Tahoe through the Environmental Improvement Program. Since 1997, the EIP has invested about \$1.8 billion into projects to restore Lake Tahoe's environment and improve its public recreation opportunities — a total that includes federal, state, local government, and private sector funding.

"One billion, 800 million dollars has been invested into this lake and it has made a difference," Feinstein said at the Lake Tahoe Summit, adding that passage of the Lake Tahoe Restoration Act will help ensure that environmental restoration progress continues on multiple fronts.

Rep. Tom McClintock, R-Calif., has introduced a version of the Lake Tahoe Restoration Act in the House of Representatives and it has passed through committee.

Cosponsored by Rep. Mark Amodei, R-Nev., the House version of the Act would authorize federal funding primarily for invasive species work and projects to reduce hazardous fuels in the extensive national forest lands around



Photo by Mike Vollmer

Sen. Dean Heller, R-Nev., hosted the 19th annual Lake Tahoe Summit.

Tahoe communities.

Speaking at the summit, McClintock said catastrophic wildfire is the greatest threat facing Lake Tahoe.

"The alarms are ringing all around us," McClintock said. "Eighty percent of the Tahoe Basin forests are now densely and dangerously overgrown. At lower elevations, there are now four times the

number of trees compared to historic conditions. Modeling by the Lake Tahoe Basin Management Unit warns that in two-thirds of the forest, conditions now exist for explosive wildfire."

Tahoe officials say they hope to see compromise between the House and Senate result in passage of the Lake Tahoe Restoration Act in 2016.

70 join Tahoe RCD Landscape Conservation Tour

By Sarah Bauwens

TAHOE RESOURCE CONSERVATION DISTRICT

The Tahoe Resource Conservation District is already planning next year's Landscape Conservation Tour after the success of this year's event in August.

More than 70 Tahoe Basin residents participated in the tour to learn how to create Tahoe-friendly home landscaping.

The tour began at the Lake Tahoe Community College Demonstration Garden and showcased five home gardens using creative ways to achieve beauty, functionality, and environmental sustainability.

At the demonstration garden TRPA experts showed participants how to maintain Stormwater Best Management Practices, and South Lake Tahoe city officials explained stormwater improvement projects planned or recently installed in their neighborhoods. Some other highlights:

- South Tahoe Public Utility District educators gave water-conservation tips and information about the district's Turf Buy Back Program.
- League to Save Lake Tahoe representatives described the relationship between healthy landscapes and reduced stormwater pollution.
- Lake Tahoe Basin Fire Academy coordinator Leona Allen described how to reduce wildfire risk through defensible space landscaping.
- UC Cooperative Extension Master Gardeners discussed the benefits of gardening with native plants and demonstrated smart irrigation.

After the tour, participants enjoyed a Community Conservation After-Party and raffle drawing at The Heart of Meyers, which features a new commercial turf conversion project and glyoph installation. Tour participants



Photo courtesy of Tahoe RCD

One of the gardens on the home tour.

and garden hosts listened to live music from the band "4-Piece Puzzle" while enjoying food from Verde Mexican Rotisserie.

Tahoe RCD officials said they were grateful to all who attended and assisted with this event; without community involvement, these types of events would not be possible, they

said. Anyone interested in making home garden recommendations or participating in next year's garden tour should "like" the Tahoe Resource Conservation District on Facebook and visit tahoercd.org for additional information on this and other events.

Sarah Bauwens is an outreach specialist for the Tahoe Resource Conservation District.

Forest Service project restores natural wetland

Reclamation of 2-acre wet meadow will improve habitat and help with water quality

By Lisa Herron
U.S. FOREST SERVICE

The U.S. Forest Service Lake Tahoe Basin Management Unit (LTBMU) has begun restoring a wetland meadow that private property owners bulldozed in the mid-1960s to create Seneca Pond.

The LTBMU estimates the project will restore 2 acres of riparian and wetland habitat in the Angora Creek watershed, which feeds into the Upper Truckee River — the main tributary of Lake Tahoe. A top priority for both the Forest Service and the Lake Tahoe Environmental Improvement Program is to restore watersheds in order to improve the water quality of Lake Tahoe.

The Forest Service acquired the property in the mid-1970s and maintained the area for recreational use. In the early 1990s, the agency proposed converting the pond back to a wet meadow to restore ecological function to downstream Angora Creek. The neighborhood objected to removing the long-time swimming hole and convinced the Forest Service to maintain and improve the pond.

However, maintaining water in the

pond year-round allowed it to become a breeding ground for invasive bullfrogs, which displaced native amphibians such as the Western toad and Pacific tree frog. Then, in 2007, the pond became widely known as the point of origin for the Angora Fire, which burned more than 250 homes.

As part of the post-fire Angora Ecosystem Restoration Project, the Forest Service determined that the benefits of restoring the area to a wet meadow and providing an improved habitat for native amphibians outweighed the impact of removing the neighborhood swimming hole.

In July 2015, work began by draining the pond. Heavy equipment reshaped the pond to blend with the natural contour of the landscape. Small trees and shrubs were transplanted and larger trees were felled and partially buried to create improved amphibian habitat.

This fall, the area was seeded and hydro mulched to encourage vegetation recovery. The area will be planted with sod plugs in the spring of 2016 and the Forest Service will irrigate the area to help the revegetation process. In time,



Photo courtesy of the U.S. Forest Service

Work crews restore Seneca Pond to its original state as a wetland meadow.

the new meadow will visually recover and support an enhanced community of alder, willow, aspen, sedge grasses, and wildflowers and provide ecological

benefit to the Lake Tahoe watershed.

Lisa Herron is a public affairs specialist with the U.S. Forest Service Lake Tahoe Basin Management Unit.

Take Care' campaign catching on around Tahoe Basin

By Devin Middlebrook
TAHOE REGIONAL PLANNING AGENCY

Whether we are enjoying a leisurely dog walk or rushing to get our weekly groceries, the Take Care campaign is making its way into our daily lives. The catchy, fun campaign aimed at residents and visitors was launched in July 2015. It is a series of reminders that pokes fun at the mistakes we all make when we're not paying attention to littering, dog waste, fires, and bear safety. These are just some of the issues impacting our region. The Take Care campaign helps reduce these impacts by promoting a more responsible use of our great outdoors.

The campaign is designed for use in outreach by public agencies, private businesses, and nonprofit organizations in the Lake Tahoe Region. The initial launch included messages for the summer season:

general litter, cigarette butts and beer bottle litter, dog waste, fire safety, bear awareness, and aquatic invasive species prevention.

"The campaign is really fun and so different than what we normally use," said Madonna Dunbar of the Incline Village General Improvement District and the Tahoe Water Suppliers Association. "We are excited to join the regional effort by using the Take Care campaign to help keep our beaches, parks, and trails clean."

Incline Village General Improvement District is just one of the many organizations that have integrated Take Care into its messaging. You can see Take Care while shopping at Raley's, picnicking at Sand Harbor State Park, or sipping a cup of coffee at West Shore Café. To learn more about Take Care of Tahoe, go to takecaretahoe.org.



One of the Take Care reminders was installed at the boat ramp at Sand Harbor.

Other organizations using Take Care include: American Century Golf, Barton Health, California Tahoe Conservancy, City of South Lake Tahoe, Edgewood Tahoe, Glenshire Homeowners Association, Heavenly Mountain Resort, Incline Village General Improvement District, Keys Café, KRLT Radio 93.9, Lake Tahoe Community College, Lake Tahoe Humane Society, Lake Tahoe Marina Owners, Lake Tahoe Visitors Authority, League to Save Lake Tahoe, Montbleu Resort & Casino, Mourelatos Lakeshore Resort, Northstar California, Nevada State Parks, North Lake Tahoe Resort Association, North Tahoe Business Association, North Tahoe Public Utility District, Placer County, Raley's Fine Foods, Reno-Sparks Convention & Visitors Authority, Ritz-Carlton Lake Tahoe, Sierra State Parks Foundation, Sierra Watershed Education Partnerships, South Tahoe Drug Free Coalition, South Tahoe Refuse, Squaw Valley, Alpine Meadows, Suddenlink Communications, Tahoe Chamber, Tahoe City Downtown Association, Tahoe City Public Utility District, Tahoe Fund, Tahoe Regional Planning Agency, Tahoe Resource Conservation District, Tahoe Truckee Community Foundation, Tahoe TV, Tahoe Truckee Sierra Disposal, Tahoe Truckee Unified School District, Town of Truckee, UC Davis Tahoe Environmental Research Center, U.S. Forest Service Lake Tahoe Basin Management Unit, Village at Squaw Valley, West Shore Café.

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Brynn Hitchcock enjoys reading *Tahoe In Depth*.

What readers are saying:

Thank you for this excellent publication!

— P.W., Los Angeles, CA

Thanks for a valuable perspective and positive look at the efforts of TRPA and all of the partners that help create a healthy future for our beloved environment.

— L.M., South Lake Tahoe, CA

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TRANSPORTATION IS TRANSFORMATION

Local agencies have implemented nearly 1/3 of the projects in the Lake Tahoe Region's 20-year Transportation Plan, Mobility 2035, including transit, stormwater, community revitalization and bicycle and pedestrian projects. These projects support lake clarity, economic vitality, safety, and quality of life.

SAWMILL BIKE TRAIL



Photo by Mike Vollmer

Fourteen miles of bicycle and pedestrian facilities have been constructed since 2012.

HIGHWAY 50 WATER QUALITY



Photo by Mike Vollmer

Over 40 miles of roadway have been retrofitted with water quality improvements, bike lanes, and crosswalks since 2012.

TAHOE CITY TRANSIT CENTER



Photo by Bruce R. Damonte

An award-winning transit center, new bus shelters, and improved services enhance the area.

KINGS BEACH COMMERCIAL REVITALIZATION



Courtesy of KingsBeachCore.info

Kings Beach revitalized their downtown by creating livable spaces for people to walk, bike, and play.

Learn how you can help shape transportation projects that can transform your community:

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10 WAYS TO SUPPORT TAHOE'S ENVIRONMENT



Photo by Tom Loishaw

Want to help manage our fragile ecosystem? It might be easier than you think.

By Amy Berry
TAHOE FUND

There are many people and organizations hard at work caring for the Tahoe environment. They have worked together for years on everything from new bike trails to creek restorations to programs that protect the lake from aquatic invasive species. It's all done with one goal in mind: the long-term restoration and improvement of Tahoe's environment.

This work is necessary to manage the balance between our fragile ecosystem and the growing number of people who love to play in Tahoe. This is a challenge that will last as long as we keep our forests and lake open to the public.

But the work is not just up to our public agencies. The private community has a responsibility to be stewards of our land, too. There are now a number of ways that you can help. As we embark on a new year, consider pledging to do your part. Here are 10 ways you can help:

1. Take Care. Look out for a new campaign around Tahoe called "Take Care" that reminds everyone of the simple things we can all do to take better care of Tahoe. You can pick up after your dog, pack out what you pack in on trails and beaches, and secure trash so bears can't access it. You can learn more and take the pledge to Take Care at takecaretahoe.org.

2. Green Bucks. Hotels, ski resorts, restaurants, and other businesses around the region are allowing guests to add dollar donations (or more) to their bill to support environmental projects. Look for Green Bucks businesses and be sure to add your support. For a list of participating businesses visit tahoefund.org/greenbucks.

3. Buy a Tahoe license plate. The fees from your plates go directly to the California Tahoe Conservancy or the Nevada Division of State Lands to fund hiking and biking trails and watershed restoration. Purchase a plate between Nov. 1 and April 1 and you will receive two free lift tickets to a Tahoe resort. Visit tahoepates.org for more information.

4. Donate. Support an environmental project with a tax-deductible donation to the Tahoe Fund. The nonprofit raises private funds for environmental improvement projects all around the lake, including bike paths, watershed restorations, removal of aquatic invasive weeds, and environmental stewardship programs. Visit tahoefund.org.

5. Download the new "Citizen Science Tahoe" app. UC Davis Tahoe Environmental Research Center created a new app to help you record observations of the environment around you. Visit CitizenScienceTahoe.org to get the app.

6. Subscribe to Tahoe In Depth. Stay up to date on environmental news and learn how to become a steward of Tahoe. For details visit tahoeindepth.org or page 22 of this issue.

7. Volunteer. Become an Eyes on the Lake volunteer with the League to Save Lake Tahoe to help prevent the spread of aquatic invasive plants in Tahoe's waters. Volunteers will learn how to identify plants in the classroom and in the field. The League also hosts various beach

clean-ups and weed pulls. Sign up at keeptahoeblue.org.

8. Be a citizen scientist. Join Pipe Keepers, a citizen science program that addresses the threat of stormwater pollution entering Lake Tahoe. League to Save Lake Tahoe staff will train you to survey local neighborhoods and collect stormwater samples during rain and snowmelt events. Stormwater runoff is the largest source of pollution that degrades lake clarity. Learn more at keeptahoeblue.org.

9. Drink Tahoe Tap. Tahoe's water is some of the purest in the world. Drinking Tahoe Tap will save you money and help save the environment by reducing waste from plastic bottles.

10. Enjoy! Take the time to enjoy Tahoe's fresh, clean, mountain air and commit to doing your personal best to preserve this experience for the next generation.

Amy Berry is the CEO of the Tahoe Fund, a nonprofit dedicated to supporting environmental improvement projects by inspiring financial support from the private community.